

Fig. 15

Typical Impedance data obtained during cure, Natural Rubber

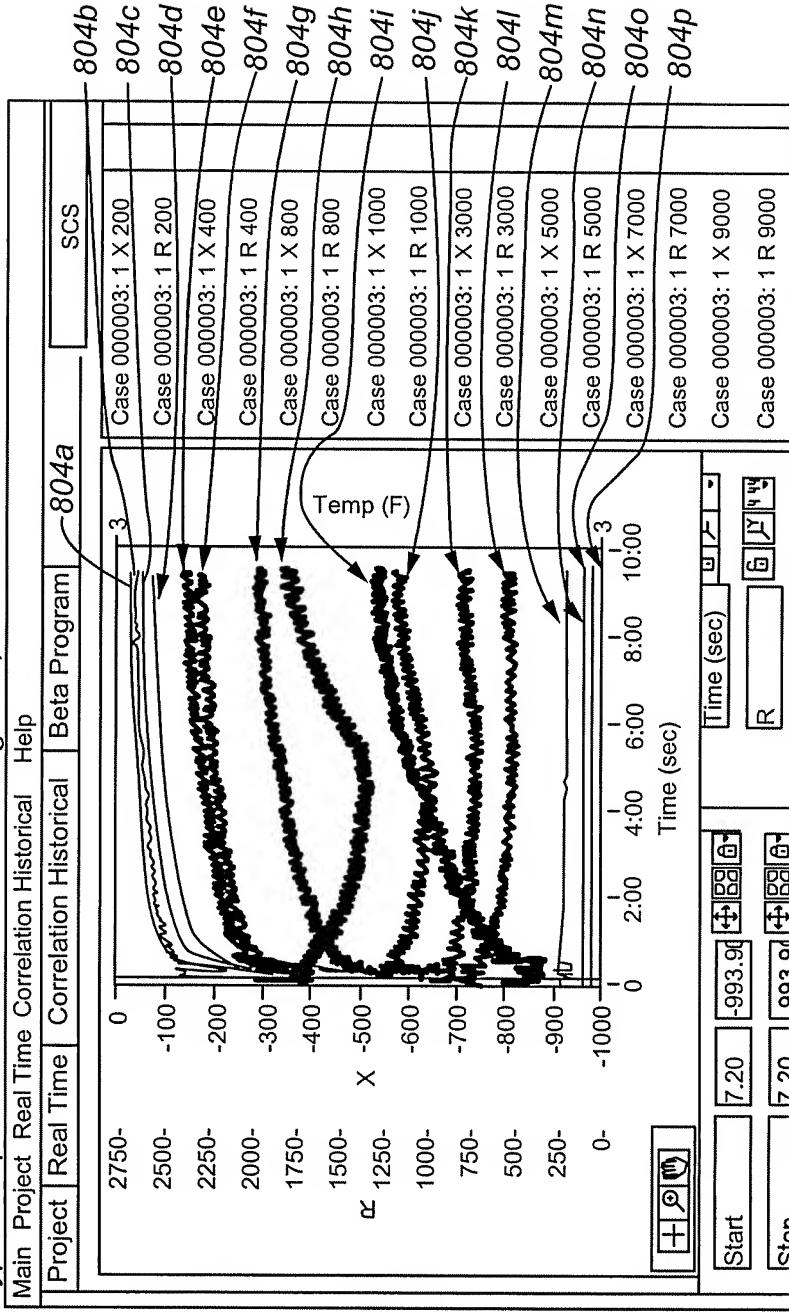


Fig. 16
Conditions and Rheometry for Natural Rubber Designed Experiment

temperature (deg C)	accelerator loading	T90 (sec)
165	low	225
175	low	145
185	low	99
165	nominal	210
175	nominal	131
185	nominal	88
165	high	154
175	high	104
185	high	78

Fig. 18

Conditions and Rheometry for Broad Sampling of Natural Rubber Batches

Batch ID	Cure Characteristic	Hardness	Temp (C)	T90 (sec)
AA22120-1	slow curing	nominal	165	225
AA22120-1	slow curing	nominal	175	144.6
AA22120-1	slow curing	nominal	185	99
AA12120-5	nominal-production	nominal-production	165	210
AA12120-5	nominal-production	nominal-production	175	130.8
AA12120-5	nominal-production	nominal-production	185	90
AA32120-1	fast curing	nominal	165	153.6
AA32120-1	fast curing	nominal	175	103.8
AA32120-1	fast curing	nominal	185	78
AA12259-1	nominal	soft	165	199.8
AA12259-1	nominal	soft	175	123.6
AA12259-1	nominal	soft	185	89.4
AA12189-1	nominal	hard	165	189.6
AA12189-1	nominal	hard	175	123.6
AA12189-1	nominal	hard	185	88.2
AA12120-15	nominal-production	nominal-production	165	183
AA12120-15	nominal-production	nominal-production	175	121.2
AA12120-15	nominal-production	nominal-production	185	84.6
AA12120-23	nominal-production	nominal-production	175	120

Fig. 20

		TEMPERATURE		
		165 C	175 C	180 C
AA22120-1 slow curing		6 samples 11:10 (predicted cure time)	6 samples 8:10 (predicted cure time)	
AA12120-57 production batch		4 samples 10:46 (predicted cure time)	7 samples 7:52 (predicted cure time)	
AA12120-58 production batch			6 samples 7:56 (predicted cure time)	8 samples 7:05 (predicted cure time)
AA32120-1 fast curing		7 samples 9:11 (predicted cure time)	5 samples 7:13 (predicted cure time)	8 samples 6:09 (predicted cure time)

BATCH IDENTIFIER